

Claims

What is claimed is:

- 1 1. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system comprising the
3 steps of:
4 providing a service processor coupled to a machine under test for
5 sending system firmware test functions to said machine under test and
6 receiving test data from said machine under test;
7 providing a host computer coupled to said service processor for
8 sending bring-up tool debug test functions to said machine under test and
9 receiving test data from said machine under test;
10 starting said system firmware test functions without user intervention
11 on initial power-on routine of the machine under test;
12 receiving a user request with said host computer and notifying said
13 service processor; and
14 starting said bring-up tool debug test functions responsive to said
15 user request.
- 1 2. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 1 wherein the step of providing said service processor coupled to a
4 machine under test for sending system firmware test functions to said
5 machine under test and receiving test data from said machine under test
6 includes the step of storing system firmware in said service processor for
7 sending said system firmware test functions to said machine under test and
8 receiving said test data from said machine under test by said service
9 processor.

1 3. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 1 wherein the step of providing said host computer coupled to said
4 service processor for sending bring-up tool debug test functions to said
5 machine under test and receiving test data from said machine under test
6 includes the step of storing a bring-up tool in said host computer for sending
7 bring-up tool debug test functions to said machine under test and receiving
8 test data from said machine under test.

1 4. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 1 includes the steps of identifying a failure in said machine under test
4 with said system firmware test functions, stopping said system firmware test
5 functions, and notifying said host computer.

1 5. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 4 includes the step of receiving a user request and starting said bring-
4 up tool debug test functions responsive to said user request.

1 6. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 5 includes the step of completing said bring-up tool debug test
4 functions and starting said system firmware test functions without user
5 intervention.

1 7. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 1 wherein the steps of providing said service processor coupled to said
4 machine under test for sending system firmware test functions to said
5 machine under test and receiving test data from said machine under test;
6 and providing said host computer coupled to said service processor for
7 sending bring-up tool debug test functions to said machine under test and
8 receiving test data from said machine under test includes the step of
9 providing said service processor with a scan controller coupled to said
10 machine under test and said system firmware test functions and said bring-
11 up tool debug test functions controlling access to the scan controller.

1 8. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 7 includes the step of storing system firmware in said service
4 processor for controlling said scan controller for sending said system
5 firmware test functions to said machine under test and receiving said test
6 data from said machine under test by said service processor.

1 9. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 8 includes the step of storing a bring-up tool in said host computer for
4 controlling said scan controller for sending bring-up tool debug test functions
5 to said machine under test and receiving test data from said machine under
6 test.

1 10. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 1 includes the step of completing said bring-up tool debug test
4 functions.

1 11. A method for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 10 includes the step of starting said system firmware test functions
4 without user intervention.

1 12. Apparatus for implementing coexistence and cooperation
2 between system firmware and debug code in a test system comprising:
3 a service processor coupled to a machine under test for sending
4 system firmware test functions to said machine under test and receiving test
5 data from said machine under test;
6 a host computer coupled to said service processor for sending bring-
7 up tool debug test functions to said machine under test and receiving test
8 data from said machine under test;
9 said service processor including a scan controller for transferring said
10 system firmware test functions and said bring-up tool debug test functions to
11 said machine under test and receiving said test data from said machine
12 under test; and
13 said system firmware test functions and said bring-up tool debug test
14 functions controlling access to said scan controller.

1 13. Apparatus for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 12 wherein said scan controller is coupled to said machine under test
4 by a JTAG bus.

1 14. Apparatus for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 12 wherein said host computer coupled to said service processor
4 includes system firmware for providing a graphical user interface.

1 15. Apparatus for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 12 wherein said host computer is responsive to a user request for
4 sending bring-up tool debug test functions to said machine under test and
5 receiving test data from said machine under test.

1 16. Apparatus for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 12 wherein said service processor is responsive to an initial power-on
4 routine of the machine under test for sending system firmware test functions
5 to said machine under test and receiving test data from said machine under
6 test without user intervention.

1 17. Apparatus for implementing coexistence and cooperation
2 between system firmware and debug code in a test system as recited in
3 claim 12 wherein said service processor is responsive to said bring-up tool
4 debug test functions completing for sending system firmware test functions
5 to said machine under test and receiving test data from said machine under
6 test without user intervention.

1 18. A computer program product for implementing coexistence and
2 cooperation between system firmware and debug code in a test system
3 including a service processor coupled to a machine under test and coupled
4 to a host computer, said computer program product including a plurality of
5 computer executable instructions stored on a computer readable medium,
6 wherein said instructions, when executed by said service processor, cause
7 the service processor to perform the steps of:
8 starting system firmware test functions without user intervention on
9 initial power-on routine of the machine under test;
10 sending system firmware test functions to said machine under test
11 and receiving test data from said machine under test;
12 receiving a user request with said host computer and notifying said
13 service processor; and
14 starting said bring-up tool debug test functions responsive to said
15 user request; and
16 sending bring-up tool debug test functions to said machine under test
17 and receiving test data from said machine under test.